Amendment to the Claims:

1. (Previously Presented) A method for generating magnetic resonance images using a magnetic resonance apparatus, the method comprising the steps:

- acquiring a reference scan,

- providing the magnetic resonance apparatus with a target value of a specific scan parameter, and

- determining, by the magnetic resonance apparatus and based on reference scan data, an optimum scan parameter set according to the target value of the specific scan parameter.

2. (Previously Presented) The method as claimed in claim 1, wherein the reference scan data include sensitivity data for each coil element of the magnetic resonance apparatus for each voxel.

3. (Original) The method as claimed in claim 1, wherein the optimum scan parameter set is determined for a defined region of interest.

4. (Original) The method as claimed in claim 1, wherein the specific scan parameter is the scan time.

5. (Original) The method as claimed in claim 1, wherein the specific scan parameter is the signal-to-noise ratio.

6. (Original) The method as claimed in claim 1, wherein the determining of the optimum scan parameter set comprises the step:

- determining the image noise for a number of predetermined scan parameter sets.

7. (Original)   The method as claimed in claim 6, wherein the predetermined scan parameter sets include sets with different orientations of the phase encode direction.

8. (Original)   The method as claimed in claim 6, wherein the predetermined scan parameter sets include sets with different RFOV.

9. (Original)   The method as claimed in claim 1, comprising the further step:

- automatically performing a scan using the determined optimum scan parameter set.

10. (Currently Amended) An apparatus for generating magnetic resonance images comprising:

- an acquisition device for acquiring awhich acquires reference scan data,

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- an operating device for providing the apparatus withwhich provides a target value of a specific scan parameter, and

- a control device for determiningwhich determines, based on reference scan data, an optimum one or more of a plurality of scan parameter sets which meets according to the target value of the specific scan parameter and

10 optimizes a second scan parameter.

11. (Previously Presented)   A computer program for generating magnetic resonance images using a magnetic resonance apparatus comprising computer instructions to control a computer to perform the method as claimed in claim 1.

12. (Currently Amended) A magnetic resonance imaging method comprising:

selecting a target value of a specified scan criterion, the specified scan criterion beingfor one of a signal-to-noise ratio and a scan time;

5   analyzing a reference scan to determine which of a plurality of sets of scan parameters (1) meet the ~~specified~~<u>selected</u> one of the signal-to-noise ratio ~~scan criterion~~<u>target value</u> and the scan time ~~scan criterion~~<u>target value</u> and (2) optimize the other of the signal-to-noise ratio ~~scan criterion~~ and the scan time ~~scan criterion~~, namely, maximize in the case of the signal-to-noise ratio or minimize in the case of

10   the scan time.

13. (Previously Presented)   The method as claimed in claim 12, further including defining a region of interest and wherein the plurality of sets of scan parameters include both (1) subsets of scan parameters for performing intrinsic foldover imaging techniques in which foldover signals fall outside the region of

5   interest, and (2) subsets of scan parameters for performing sensitivity encoding imaging techniques with a field of view that encompasses a size of a subject and contains the defined region of interest.

14. (Cancelled)

15. (Previously Presented)   The method as claimed in claim 12, wherein the sets of scan parameters include scan parameter sets that describe a plurality of different phase encoding directions.

16. (Currently Amended) The method as claimed in claim 12, further including one of:

       automatically conducting a magnetic resonance imaging scan using the determined set of scan parameters which meets the ~~specified~~<u>selected</u> one of the

5   signal-to-noise ~~scan criterion~~ and the scan time ~~scan criterion~~<u>target value</u> and which optimizes the other one of the signal-to-noise ~~scan criterion~~ and the scan time ~~scan criterion~~; and,

       presents a display for operator selection of sets of scan parameters that meet the ~~specified criterion~~<u>selected target value</u> and optimize the other ~~criterion~~<u>as the</u>

10   <u>signal to noise ratio and the scan time</u>.

17. (Previously Presented) A magnetic resonance imaging apparatus including a computer-based controller programmed to control the magnetic resonance imaging apparatus to perform the method as claimed in claim 12.

18. (Previously Presented) A computer medium carrying software for controlling a computer to perform the method as claimed in claim 12.

19. (New) The method as claimed in claim 1, wherein the determining the optimizing scan parameter set step includes determining which scan parameter set of a plurality of scan parameter sets (1) meets the target value for the specific scan parameter and optimizes at least one additional scan parameter.

20. (New) The method as claimed in claim 19, wherein the specific scan parameter includes one of rectangular field of view percentage, signal to noise ratio, image noise, and scan time and the additional scan parameter includes at least adjacent one of rectangular field of view percentage, signal to noise ratio, image noise, and scan time.

21. (New) The apparatus as claimed in claim 10, wherein the second scan parameter is scan time.